Notice of Allowability	Application No.	Applicant(s)	
	10/657,692	HETTIARACHCHY ET AL.	
	Examiner	Art Unit	
	Robert A. Wax	1653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the election filed April 17, 2006*.

2. ☒ The allowed claim(s) is/are *1-59*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 20051205
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20060623* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. Claims 1-17 are directed to an allowable product. Pursuant to the procedures set forth in MPEP § 821.04(B), claims 18-73, directed to the process of making or using an allowable product, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, the restriction requirement as set forth in the Office action mailed on March 16, 2006 is hereby withdrawn. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claims including all the limitations of an allowable product claim or rejoined process claim are presented in a continuation or divisional application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Angela Foster on June 23, 2006.

The application has been amended as follows:

Amend the claims to read as follows:

1. (Amended) An organic acid incorporated edible antimicrobial film comprising:
   (a) 7.0 to 16.5 grams w/w protein;
   (b) 0.63 to 1.5 grams w/w glycerol; and
   (c) 1.82 to 4.3 grams w/w at least one organic acid naturally found in fruit or lactic acid.

2. (Amended) The edible film according to claim 1, wherein said protein is selected from the group consisting of soy, whey, rice bran extract, egg albumin and wheat protein.

3. (Pending) The edible film according to claim 1, wherein said protein is soy protein.

4. (Amended) The edible film according to claim 3, wherein said protein is present in a concentration of 10% by weight.

5. (Amended) The edible film according to claim 1, wherein said glycerol is present in a concentration of 0.9% by weight.

6. (Amended) The edible film according to claim 1, wherein said organic acid is selected from the group consisting of citric acid, malic acid and tartaric acid.

7. (Pending) The edible film according to claim 1, wherein said organic acid is malic acid.

8. (Amended) The edible film according to claim 7, wherein said malic acid is present in a concentration of 2.6% by weight.

9. (Amended) An organic acid incorporated edible antimicrobial film comprising:
   (a) 1.5 to 7.5 grams w/w hydrocolloid;
   (b) 0.14 to 0.68 grams w/w glycerol; and
   (c) 0.40 to 1.95 grams w/w at least one organic acid naturally found in fruit or lactic acid.

10. (Amended) The edible film according to claim 9, wherein said hydrocolloid is selected from the group consisting of carboxymethyl cellulose, alginate, carrageenan and pectin.

11. (Pending) The edible film according to claim 9, wherein said hydrocolloid is carboxymethyl cellulose.

12. (Amended) The edible film according to claim 10, wherein said carboxymethyl cellulose is present in a concentration of 1.5% by weight.

13. (Amended) The edible film according to claim 9, wherein said glycerol is present in a concentration of 0.9% by weight.

14. (Amended) The edible film according to claim 9, wherein said organic acid is selected from the group consisting of citric acid, malic acid and tartaric acid.

15. (Pending) The edible film according to claim 9, wherein said organic acid is malic acid.

16. (Amended) The edible film according to claim 15, wherein said malic acid is present in a concentration of 2.6% by weight

17. (Pending) The edible film according to claim 1 or 9, wherein said film is capable of inhibiting pathogens selected from the group consisting of *Listeria monocytogens*, *Salmonella gaminara* and *E. coli* 0157:H7.

18. (Amended) A method for making an organic acid incorporated edible antimicrobial film solution comprising the steps of:

(a) mixing protein in water wherein said protein is present in a weight ratio ranging from 7.0 to 16.5;

(b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.63 to 1.5;

(c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution; and

(d) adding at least one organic acid naturally found in fruit or lactic acid to said solution wherein said organic acid is present in a weight ratio ranging from 1.82 to 4.3

19. (Pending) The method according claim 18, wherein said mixture is heated to 85° C for 30 minutes.

20. (Pending) The method according claim 18, further comprising lowering the pH of said solution to a pH of about 3.3.

21. (Pending) The method according claim 18, further comprising lowering the pH of said solution to a pH of about 3.3 using malic acid.

22. (Amended) The edible film according to claim 18, wherein said organic acid is selected from the group consisting of citric acid, malic acid and tartaric acid.

23. (Pending) The method according claim 18, wherein said organic acid is malic acid.

24. (Amended) The method according claim 23, wherein said malic acid is present in a concentration of 2.6% by weight.

25. (Amended) The method according claim 18, wherein said protein is selected from the group consisting of soy, whey, rice bran extract, egg albumin and wheat protein.

26. (Pending) The method according claim 18, wherein said protein is soy protein.

27. (Amended) The method according claim 26, wherein said soy protein is present in a concentration of 10% by weight.

28. (Amended) A method for making an organic acid incorporated edible antimicrobial film solution comprising the steps of:

(a) mixing hydrocolloid in water wherein said hydrocolloid is present in a weight ratio ranging from 1.5 to 7.5;

(b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.14 to 0.68;

(c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution; and

(d) adding at least one organic acid naturally found in fruit or lactic acid to said solution wherein said organic acid is present in a weight ratio ranging from 0.40 to 1.95.

29. (Pending) The method according claim 28, wherein said mixture is heated to 85° C for 30 minutes.

30. (Pending) The method according claim 28, further comprising lowering said solution to a pH of about 3.3.

31. (Pending) The method according claim 28, further comprising lowering said solution to a pH of about 3.3 using malic acid.

32. (Amended) The method according claim 28, wherein said glycerol is present in a concentration of 0.9% by weight.

33. (Amended) The method according claim 28, wherein said organic acid is selected from the group consisting of citric acid, malic acid and tartaric acid.

34. (Pending) The method according claim 28, wherein said organic acid is malic acid.

35. (Amended) The method according claim 34, wherein said malic acid is present in a concentration of 2.6% by weight.

36. (Amended) The method according claim 28, wherein said hydrocolloid is selected from the group consisting of carboxymethyl cellulose, alginate, carrageenan and pectin.

37. (Pending) The method according claim 28, wherein said hydrocolloid is carboxyl methylcellulose.

38. (Amended) The method according claim 37, wherein said carboxymethyl cellulose is present in a concentration of 1.5% by weight.

39. (Amended) A method for coating comestible products with an organic acid incorporated edible antimicrobial film solution comprising the steps of:

(a) mixing hydrocolloid in water wherein said protein is present in a weight ratio ranging from 1.5 to 7.5;

(b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.14 to 0.68;

(c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution;

(d) adding at least one organic acid naturally found in fruit or lactic acid to said solution wherein said organic acid is present in a weight ratio ranging from 0.40 to 1.95; and

(e) applying said solution to said comestible product at a thickness in the range of 8-40 μm.

40. (Pending) The method according claim 39, wherein said mixture is heated to 85° C for 30 minutes.

41. (Pending) The method according claim 39, further comprising lowering said solution to a pH of about 3.3.

42. (Pending) The method according claim 39, further comprising lowering said solution to a pH of about 3.3 using malic acid.

43. (Amended) The method according claim 39, wherein said glycerol is present in a concentration of 0.9% by weight.

44. (Amended) The method according claim 39, wherein said organic acid is selected from the group consisting of citric acid, malic acid and tartaric acid.

45. (Pending) The method according claim 39, wherein said organic acid is malic acid.

46. (Amended) The method according claim 45, wherein said malic acid is present in a concentration of 2.6% by weight.

47. (Amended) The method according claim 39, wherein said hydrocolloid is selected from a group consisting of carboxymethyl cellulose, alginate, carrageenan and pectin.

48. (Pending) The method according claim 39, wherein said hydrocolloid is carboxyl methylcellulose.

49. (Amended) The method according claim 48, wherein said carboxymethyl cellulose is present in a concentration of 1.5% by weight.

50. (Amended) A method for coating comestible products with an organic acid incorporated edible antimicrobial film solution comprising the steps of:

(a) mixing protein in water wherein said protein is present in a weight ratio ranging from 7.0 to 16.5;

(b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.63 to 1.5;

(c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution;

(d) adding at least one organic acid naturally found in fruit or lactic acid to said solution wherein said organic acid is present in a weight ratio ranging from 1.82 to 4.3; and

(e) applying said solution to said comestible product at a thickness in the range of 10-168 μm.

51. (Pending) The method according claim 50, wherein said mixture is heated to 85° C for 30 minutes.

52. (Pending) The method according claim 50, further comprising lowering said solution to a pH of about 3.3.

53. (Pending) The method according claim 50, further comprising lowering said solution to a pH of about 3.3 using malic acid.

54. (Amended) The method according claim 50, wherein said organic acid is selected from the group consisting of citric acid, malic acid and tartaric acid.

55. (Pending) The method according claim 50, wherein said organic acid is malic acid.

56. (Amended) The method according claim 55, wherein said malic acid is present in a concentration of 2.6% by weight.

57. (Amended) The method according claim 50, wherein said protein is selected from the group consisting of soy, whey, rice bran extract, egg albumin and wheat protein.

58. (Pending) The method according claim 50, wherein said protein is soy protein.

59. (Amended) The method according claim 58, wherein said protein is present in a concentration of 10% by weight.

Cancel claims 60-73.

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance: The prior art teaches edible films comprising protein or hydrocolloid and glycerol but does not teach the addition of organic acids naturally found in fruit as a component of such films. Some organic acids are known for their antimicrobial properties and have been used in conjunction with edible films but have not been incorporated into the films with the exception of certain fatty acids, which are not within the scope of the current claims. In addition, the proportion of glycerol in the current claims is substantially lower than the proportion taught in the prior art and no motivation was found to lower the amount of glycerol. Thus, the instant claims are deemed novel and unobvious.

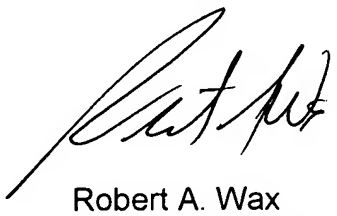
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Wax whose telephone number is (571) 272-

0623. The examiner can normally be reached on Monday through Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon P. Weber can be reached on (571) 272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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